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Military Science and Tactics

Reserve Officers' Training Corps

Cambridge, Massachusetts
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MILITARY SCIENCE AND TACTICS

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Color Guard with the National and State Colors

Massachusetts Institute of Technology

THE DEPARTMENT OF MILITARY SCIENCE AND TACTICS

This Department is maintained by the Institute in conformity with the requirements of the Acts of Congress of July 22, 1862, and August 30, 1890, and Section 1225 of the Revised Statutes of the United States, as amended by the Acts of Congress approved November 3, 1893, and the Acts of the General Court of Massachusetts in furtherance thereof. In accordance with the above Acts the Institute provides instruction in Military Science and Tactics, and requires all able-bodied male students who are citizens of the United States to receive this instruction for two years as a requisite for graduation.

THE RESERVE OFFICERS' TRAINING CORPS

In addition to and extension of the above requirements in accordance with the Act of Congress approved June 3, 1916, known as "The National Defence Act", there was organized in this Institute in December, 1917, the Coast Artillery Unit of the Reserve Officers' Training Corps.

The Reserve Officers' Training Corps was suspended temporarily in October, 1918, by the formation of the so called "Students' Army Training Corps", which continued until the discharge of the last member thereof on December 21, 1918. With the beginning of the following term on January 4, 1919, the Reserve Officers' Training Corps again began to function and other units were added from time to time. The Signal Corps Unit was authorized in the same War Department bulletin which authorized the formation of the Coast Artillery Unit, December 19, 1917. The Engineer Unit was authorized November 6, 1919, followed by the Ordnance Unit in October,

1920, and by the Air Service Unit on November 1 of the same year. All of these units are in the Senior Division of the Reserve Officers' Training Corps.

The outstanding lesson of the World War was the necessity for a well defined policy of National Defence and the Act of Congress approved June 4, 1920 brought all previous laws on the subject up to date by a series of well thought out amendments and additions.

Under this latter law the Army of the United States was reorganized to consist of three branches: the Regular Army, the National Guard while in the Federal Service and the Organized Reserves including Officers' Reserve Corps and the Enlisted Reserve Corps.

The Officers' Reserve Corps is to be maintained by recruiting from young men of high mental and professional training who are graduates of the Senior Divisions of the Reserve Officers' Training Corps. Such graduates are also eligible for commission in the Regular Army and National Guard. The graduate from the Reserve Officers' Training Corps will be offered a commission as a second lieutenant in the Officers' Reserve Corps in such arm of the service as he may elect along the line that he has followed in his training. He will be assigned in time of peace to skeletonized organizations. It is now the policy of the War Department to furnish replacements in time of war to all three branches of the Army from the Organized Reserves and it will become increasingly difficult for young men to serve their country in time of need in the commissioned grades except through the Reserve Officers' Training Corps and the Organized Reserves.

The instruction in military subjects is given under the Military Department by officers of the Regular Army detailed by the War Department for the purpose. The senior officer on such duty is known officially as the Professor of Military Science and Tactics. The other officers on duty with the Department are designated as Assistant Professors and there are one or more detailed from each arm represented by a unit, the senior of whom is directly in charge of the special instruction

peculiar to his unit. The non-commissioned officers and other enlisted personnel detailed for duty with the Department are known as Military Instructors.

In addition to the military subjects taught advantage is taken of the superior equipment and opportunities of the Institute to incorporate in the course of studies under this Department all of the regular courses given by other Departments which have a direct bearing or would be of special benefit to the prospective officer in the arm of the service which he elects.

The course of military instruction is divided into two parts in accordance with War Department orders, the Basic Course and the Advanced Course.

THE BASIC COURSE

This course covers two years of military instruction and includes the two years required by the earlier laws for students of certain colleges and universities.

It is compulsory by law and its successful completion is demanded by the Institute as a requisite for graduation.

All men classed as first or second year students must register for Military Science. After registering for Military Science a student may be exempted from a part or the whole of the prescribed Basic Course by the Professor of Military Science and Tactics for proper reasons presented by the student in person together with the required proof as given below.

Exemptions

Excused from All of the Basic Course.

(*a*) Students with physical defects disqualifying them from all military duties. Evidence: Certificate signed by Medical Director of the Institute.

(*b*) Alien students. Evidence: Proof of citizenship of countries other than the United States.

(*c*) Students holding commissions in the Organized Reserves. Evidence: Commission or other Military record.

(*d*) Students each of whom has had at least one year as a Cadet at the United States Military Academy or as a Midshipman at the United States Naval Academy. Evidence: Official record of such service.

(*e*) Students who have completed successfully the two years of the Basic Course with a senior unit of the Reserve Officers' Training Corps. Evidence: Certified Reserve Officers' Training Corps record.

(*f*) Students who have completed successfully four years in a junior unit of the Reserve Officers' Training Corps. Evidence: Certified Reserve Officers' Training Corps record.

(*g*) Students who have had at least one year of honorable service in the Regular Army, the Navy or the Marine Corps. Evidence: Honorable discharge or equivalent record.

(*h*) All Federal Board students. Evidence: Discharge and Federal Board record.

(*i*) Students who are in the Military or Naval service of the United States. Evidence: Military or Naval record.

(*j*) Students who have not had one full year of service required under (*g*) but who have had at least three months military service overseas before the Armistice. Evidence: Honorable discharge or Military record.

(*k*) Students over twenty-eight years of age at date of entering the Institute. Evidence: Birth certificate.

Excused from Part of the Basic Course.

(*a*) From one month of the Basic Course for each month of honorable service in a senior Reserve Officers' Training Corps Unit or in the Regular Army, Navy or Marine Corps. Evidence: Certified record or discharge.

(*b*) From one month of the Basic Course for each two months of honorable service in a junior Reserve Officers' Training Corps Unit. Evidence: Certified Reserve Officers' Training Corps record.

(*c*) From the first year of the Basic Course. Students who had at least two months honorable service during the World War before the armistice in the Army, Navy or Marine

Corps of the United States or any of its Allies: and students who have successfully completed two years work with a Junior Reserve Officers' Training Corps Unit. Evidence: Honorable discharge or service record, declaration of student verified by the authorities of the institution where the work was taken.

(*d*) From the first year of the Basic Course. Students classed in the second year on entering the Institute will not be required to take the first, but must take the second year of the Basic Course. Evidence: Registration card as a sophomore.

(*e*) From portions of the Basic Course in which proficient. Students who have had service in the National Guard, the Organized Reserves, Foreign Armies, etc., will be excused from those portions of the Basic Course in which they may be declared proficient after examination by the Department.

Physical Examination

All men entering as first or second year students are required to be examined physically by the Institute Medical Department and the result of such examination will be certified to the Military Department.

Students who are to attend Reserve Officers' Training Corps summer camps must be protected against small-pox and typhoid fever. Opportunity to obtain such protection will be provided by the Department without expense. It is better to obtain this protection before reporting at the camp and opportunity will be afforded accordingly, but if this is not done before going to camp it must be obtained immediately upon arriving there.

Military Courtesy

The customary greetings of courtesy at meeting between gentlemen on all occasions take the form among military men of the military salute. Therefore all Reserve Officers' Training Corps students in uniform and on Institute grounds, but not within any building, will salute the President of the Institute, the Dean, the Head of the Department in which the student is

registered, and the officers of the Army and Navy of the United States who are on duty at the Institute and such other officers in uniform (including foreign officers) as may visit the Institute. As the salute is a mark of courtesy and its prompt and careful rendering the sign of a gentleman and evidence of good military discipline special attention to this matter is insisted upon from all.

Cadet officers are not entitled to the salute except during drill.

Absences

Absence from drill or instruction if frequent or of long duration makes it impossible for the student to satisfactorily complete the course required and thus may prevent his graduation. In order that injustice may not be done, every case of absence should be followed as soon as practicable by a report of the cause of the absence presented by the student at the office of the Military Department. Unexcused absences will result in a decrease in the mark the student would otherwise receive for his work. Tardiness, lack of proper uniform, inattention and other breaches of military discipline will be punished by a system of demerits which will also serve to reduce the standing of the student in the course.

Uniforms

Military drill is required only of the freshmen and from them only during the ten weeks of the first and third terms.

For this purpose the Government furnishes each first year member of the Reserve Officers' Training Corps with one uniform consisting of: one belt, waist; one breeches, pair, olive drab wool; one cap, olive drab, and insignia; one coat, olive drab wool; one leggins, pair (spiral); one shirt, olive drab wool; one set of Reserve Officers' Training Corps insignia; and chevrons for non-commissioned officers and insignia of rank for officers.

All of these articles remain the property of the United States and must be signed for and accounted for by each

student. In case of loss or unwarranted damage the student will be required to pay for the same. To cover this possible charge the Institute requires a deposit of twenty-five dollars from each student taking drill, which deposit will be returned when the property is turned in without undue damage.

The uniform complete must be worn at drill and must be kept neatly pressed, clean and free from spots. Shoes must be shined and only high tan shoes worn. The coat will always be worn at drill, buttoned up, except on such occasions as may be ordered otherwise. When the coat is not worn, a narrow black four-in-hand tie will be worn with the olive drab shirt. No article of the uniform will be worn with civilian outer clothing or vice versa: except that civilian overcoat, raincoat and gloves may be worn with the uniform when climatic conditions require it.

Non-Commissioned Officers

As a result of proficiency in drill during the first term certain students will be selected and appointed non-commissioned officers for the spring term in orders by the Military Department. These appointments will be ordinarily in the grade of corporal.

While military drill is required only of freshmen, selections will be made from among those sophomores who displayed special proficiency at drill during their freshman year for appointment to the grade of sergeant. The acceptance of these appointments is voluntary and obligates the student to attendance at drill in uniform for one hour only each week, the period to be selected by the student as most convenient to him.

Competitive Drill

During the third week of May of each year there will be held a competitive drill of the students registered in the Basic Course (First Year) Reserve Officers' Training Corps.

This drill will be by platoons and from each platoon there will be selected by the judges the two students who are most

proficient in the School of the Soldier. The judges for this part of the competition will be from among the regular army officers on duty with the Military Department.

The final drill will be held during the last week of May, at which time a different set of judges not connected with the Institute will select the three most proficient students in the School of the Soldier from among those qualified in the first drill.

Prizes

Three prizes for proficiency will be offered annually by the Military Department to be awarded to the best three freshman students in so much of military drill as is included in the School of the Soldier. These prizes will take the form of medals, gold, silver and bronze, to be awarded as first, second and third prize respectively.

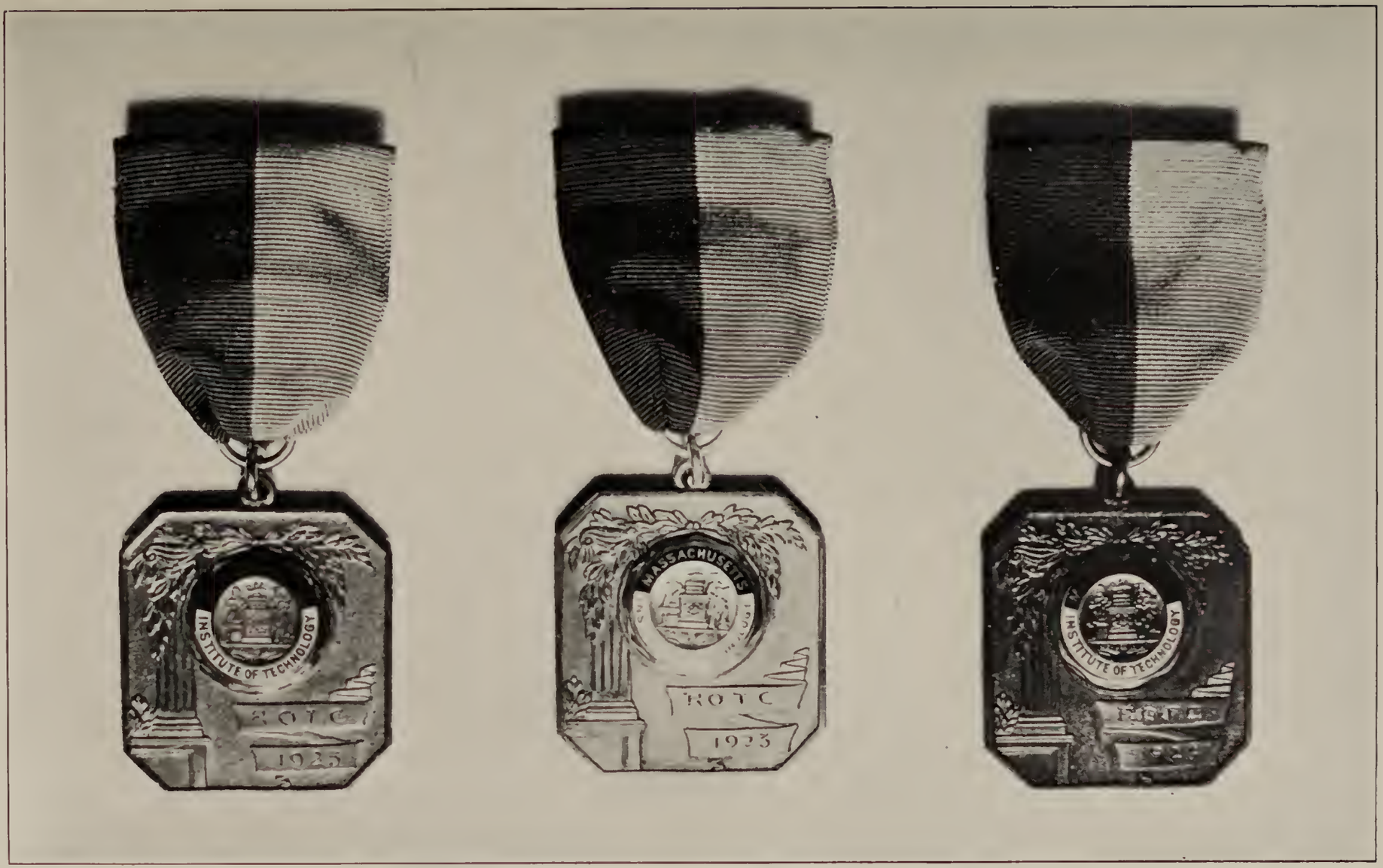
These medals will be presented to the successful contestants at the ceremonies which will follow the competitive drill and which mark the close of the work of the year.

The ceremonies will consist of a review of the freshman battalion under command of the cadet officers. After the review the medals will be presented to those winning them by whomever receives the review. The presentation of the medals will be followed by the ceremony of parade also under the cadet officers.

These ceremonies are intended as a public demonstration of the results of Reserve Officers' Training Corps training and instruction as given at the Massachusetts Institute of Technology.

Instruction, Basic Course — First Year

In the first or freshman year the student enrolled in the Military Department is taught: Infantry Drill in close order and Military Ceremonies, Military Courtesy, First Aid and Hygiene, Sanitation, Interior Guard Duty, and a group of subjects generally known as Elementary Subjects of Military Training, consisting of Organization, Administration, Supply, Regulations and Communications.



Medals for Individual Excellence in the School of the Soldier

First and Third Terms

The infantry drill is practical and is held outdoors under the direct supervision of the Regular Army personnel assisted by the student officers and non-commissioned officers. The drill periods are of one hour each and there are three periods per week during both the first and third terms. When climatic conditions make drill out of doors impossible the hour is used for lecture work in certain of the above subjects. During the first term all men are given a chance to demonstrate their ability as leaders and from the best are chosen those who will be appointed corporals for the third term drill.

Rifle Range. The instruction in the use and care of the army rifle is rounded out and completed by teaching the student how to shoot. This instruction begins with the first term of the first year of the Basic Course.

In addition to the theoretical instruction in position and aiming drill and tripod drill, practical use of the rifle is taught and opportunity given to practice in shooting in an indoor gallery of standard length and equipment.

The War Department furnishes the standard army gallery rifles, ammunition, targets and everything needed for the development of good shots.

The practice on this range is carefully supervised by an officer of the Military Department and the use of the range is open to any student in the Institute at such hours as will not interfere with the regular instruction.

Massachusetts Institute of Technology, Reserve Officers' Training Corps Team. The organization of a Reserve Officers' Training Corps team is encouraged and schedules of match competitions arranged with units in other institutions.

Corps Area Reserve Officers' Training Corps Team. Each year there is selected from among the senior Reserve Officers' Training Corps units in this Corps Area a team of seven men to represent the Corps Area in the national rifle competitions at Camp Perry, Ohio, which will be held from September 1 to September 28. The members of this team will receive mileage at the rate of five cents per mile for the round trip, quarters,

subsistence, uniforms and all equipment necessary for the match. Members of the team representing the corps area will receive medals as such and if successful in the matches will be given medals for the matches won.

Second Term. During the second term the group of subjects referred to above as Elementary Subjects of Military Training are given as lectures with occasional quizzes, written and oral.

The instruction in Hygiene will be given by the Institute in its regular course required of all freshmen.

The remainder of the instruction in the first year in the course in Military Science will be given by the personnel of the Military Department.

The Basic Camp. After completing satisfactorily the first year of the Basic Course the student is eligible, if he so desire, to go to a Basic Camp of six weeks duration during the summer.

The student who attends a Basic Camp will not receive any pay for so doing, but will receive mileage at five cents per mile for the round trip, and subsistence, quarters, clothing and medical attendance while at camp.

Those students who elect to attend a Basic Camp must be protected against small-pox and typhoid fever before going to camp or immediately upon arriving there.

At a Basic Camp the student will receive the elementary training in the duties of junior officers of the arm of the service conducting the camp. The subjects taught will be those leading up to the Advanced Courses with special emphasis on the elementary features of the work.

Instruction, Basic Course — Second Year

Except for such sophomores as may be selected by the Military Department and who volunteer to accept appointments as sergeants, there will be no infantry drill during this year.

Those selected sophomores who volunteer to assist in drilling the freshmen must pledge themselves to report for such duty, properly uniformed, for at least one drill hour

each week at such period as will not interfere with their other work.

With the exception stated above the work of the second year of the Basic Course will be lecture and class-room work together with some practical field work especially in the course in topography.

The subjects taught during the second year of the Basic Course include topography and infantry weapons in the first term, military field engineering in the second term and a group of subjects during the third term intended specially to fit those going to the Advanced Camp to receive the greatest benefit from the instruction given there.

First Term. Topography given three hours per week for five weeks includes map reading and making, and road sketching with special reference to military uses. This course is both theoretical and practical consisting of lectures and field work with the preparation of road sketches and maps.

The course in infantry weapons given for five weeks consists of three hours per week spent in lectures on and handling of the infantry rifle, the automatic rifle and pistol, the machine gun, trench mortar and hand and rifle grenades.

Second Term. The course in military field engineering given three times per week throughout the ten weeks of the second term of the second year is intended to cover so much of the subject as is common to all arms of the service and which all officers are required to know wherever commissioned. It includes hasty intrenchments, semi-permanent works and field fortifications, camouflage, roads and bridges, light railroads and pontoons, obstacles, explosives and demolitions.

Opportunity is taken during the latter part of this term to explain to students the advantages to be gained by taking the Advanced Courses in the Reserve Officers' Training Corps and the peculiarities of the different arms of the service.

This is done at this time because the work of the third term is based on the necessity for differentiating between the units and preparing for the separate camps that each unit holds during the summer.

Third Term. In this term the student may elect the unit of the Reserve Officers' Training Corps in which he desires to continue, as the instruction varies to some extent with the unit chosen. The Signal Corps and the Air Service Units each have a special course for those students who intend to elect the Advanced Course and prefer those arms of the service. For all other students, the course is the same and is planned to give basic instruction especially to those who propose to elect the Advanced Course in the Coast Artillery, Engineer or Ordnance Unit. All the courses are given with the object of preparing the student to attend the Reserve Officers' Training Corps camp of his choice in the summer.

All of the students, except those choosing the Signal Corps or Air Service Units, are given a course in motor transportation and in artillery matériel for three hours per week for the term.

The course in motor transportation will cover three hours per week for five weeks and will be illustrated by lantern slides, drawings, etc., of the various types of transportation, both military and civilian.

The Artillery Matériel Course of three hours per week for five weeks will cover instruction on guns and mortars and their carriages, fixed and mobile artillery, powders and projectiles.

For the Signal Corps Unit, instruction will be given for three hours per week for ten weeks on Signal Corps instruments, to fit the student to obtain the greatest benefit possible from the camp. This course will include elements of radio communications, field radio sets, and code practice.

The Air Service will give a ten weeks course of three hours per week on general air service subjects with the same object in view. This course will include: communications, observation, the Lewis gun, the Morse code and customs of the service.

The Summer Session. Certain students are obliged by their Institute courses to be away during the third term of their second year. For their benefit the Military Department will give during the Institute Summer Session a course in

Military Science satisfying the requirements for the work of the third term second-year Basic Course.

The Basic Camp. During the summer following the sophomore year the student in Military Science may elect to attend a Basic Camp under the same conditions as for the Basic Camp at the end of the first year. Briefly: Without obligation on the part of the student except to obtain protection against small-pox and typhoid fever. Transportation for the round trip is provided at the rate of five cents per mile, and subsistence, quarters, clothing and medical attendance are furnished during the camp period of six weeks.

The Advanced Camp. While it is intended that the student should attend the Advanced Camp of the unit of his choice at the end of his third year in this Department, still it is possible to obtain authority to go to an Advanced Camp during the summer following the completion of the second year of the Basic Course. The student is better prepared to gain the full benefit of the Advanced Camp after he has completed one year of the Advanced Course.

Description of the requirements for the Advanced Camp will be found in its proper place after the description of the work of the Advanced Course. (Third-Year).

THE ADVANCED COURSE

Those students who successfully complete the Basic Course and who desire to continue under the Military Department in preparing themselves to be of special service in the defense of their Country in an emergency are eligible to register for the Reserve Officers' Training Corps Advanced Course leading to a commission as a second lieutenant in the Officers' Reserve Corps. Students who have not taken the Basic Course at the Institute or have taken less than the prescribed two years at the Institute will be admitted to the Advanced Course on the same basis as students completing their Basic Course at the Institute if they have had equivalent training as follows:

(*a*) Successfully completed two years of Basic Course in any other senior Reserve Officers' Training Corps unit.



Emplacing a Battery of 155 mm. G. P. F. Guns

(*b*) Successfully completed four years in a junior unit of the Reserve Officers' Training Corps provided he was not less than fourteen years of age at the time he entered upon this training.

(*c*) Have had two years of work at the United States Military Academy.

(*d*) Successfully completed part of the Basic Course at the Institute and the balance to make a total equivalent of two years on the basis of one month credit for each month's successful work at any Reserve Officers' Training Corps senior unit or at the United States Military Academy or two months in a junior unit.

Students who cannot comply with the above conditions enter the Advanced Course under special conditions as regards pay, uniform allowances and Advanced Camp, which will be explained in each individual case at the time of application for enrollment.

Those who desire to join the Air Service Unit are also required to demonstrate their physical fitness for this arm by taking the special physical examination required by the War Department of all Air Service officers.

Students desiring to take an Advanced Course are advised to choose the unit corresponding to that arm of the Service in which they would prefer to be an officer during war and which most closely follows the Institute course in which they are registered.

The fullest advantage is taken of all subjects offered in the Institute to reduce the number of hours required by the Military Department and no Institute subject will be paralleled by a similar one in the Military Department. The War Department requires a minimum of five hours per week but, in order to assist the student, credit is given by the Military Department for the non-military subjects given in certain other departments. Therefore the enrollment for Advanced Courses in a certain Military Unit is limited to students pursuing particular Institute courses.

Students registered in any of the following Institute

courses are eligible to register in the Advanced Courses Reserve Officers' Training Corps Units as shown, except in the case of students electing the Ordnance Unit, who must receive the approval and consent of head of the Mechanical Engineering Department.

Institute Courses	*Units in which Student May Enroll*
All Courses (Surveying 1·02 or equivalent required)	Coast Artillery
All Courses (Except IX–A and IX–C)	Engineer
VI, VI–A, VIII, XIV	Signal Corps
II_1, II_4, III_2, V, VI–A, X, X–A, X–B, XV_2	Ordnance
Other courses on special approval.	

All students desiring to enroll for the Advanced Course will be required to take as their General Studies, military history and policy of the United States, GS98, and International Law, GS3.

Any student registered in the Advanced Course, Reserve Officers' Training Corps in any of the units may with the approval and consent of Prof. E. F. Miller, Colonel, Ordnance, Officers' Reserve Corps, register for one or more of the courses in the Ordnance School of Application. These courses are not otherwise open to civilians.

Any student enrolled in the Advanced Course, Air Service Unit, who has successfully passed the required physical examination will, upon application to an Air Service officer on duty with the unit, be given a certificate permitting him to make flights as a passenger at the Army Aviation Field at Framingham, Massachusetts, or at any other Army Aviation Field whenever the necessary facilities are available.

A student, whether or not registered in an Advanced Course under the Military Department, may be allowed on petition to the Faculty, and with the approval and consent of the head of the Institute Department in which he is registered and of the

Professor of Military Science and Tactics, to substitute an Advanced Course subject in place of the Institute subject, provided the number of hours credit is the same and further in the case of a Reserve Officers' Training Corps student that the subject is not one that he would be required to take in the unit in which registered.

Enrollment

The student who volunteers to take an Advanced Course in the Military Department will be required to execute the following contract with the War Department.

Contract

"In consideration of commutation of subsistence to be furnished in accordance with law, I hereby agree to continue in the Reserve Officers' Training Corps during the remainder of my course at the Massachusetts Institute of Technology, to devote five hours per week during such period to the Military Training prescribed, and to pursue the courses of camp training during such periods as prescribed by the Secretary of War."

These signed contracts will then be sent to the head of the Institute Department in which the student is registered, or to the head of the Department of Mechanical Engineering in the case of students electing the Ordnance Unit, for approval and consent. Upon receiving such consent (and passing the required physical examination by those electing the Air Service Unit) the enrollment is accomplished.

The date of signing this contract is the date upon which enrollment is accomplished. However it is desirable for a student to have his contract accomplished prior to the end of the second year of the Basic Course, in this case the contract is dated as of the date of the beginning of the ensuing academic year, that is the date that the student will actually enter upon the Advanced Course. This latter procedure is required in the case of any student who attends an Advanced Camp upon completion of the Basic Course, and prior to taking any part



Building a Lambert Foot Bridge

of the Advanced Course. Enrollment should be completed prior to, or as soon as practicable after, the beginning of the course, although a student may enroll at any time before the middle of the Institute third year.

Commutation of Subsistence

Payment of commutation of subsistence will begin with the date on which the course commences for those students who have signed the contract on a prior date, otherwise the date of signing is the date of beginning of commutation. The commutation value of the ration is announced annually as soon after the first of July as practicable, and at present is fixed at thirty cents per man per day. Commutation is paid as above including all vacations except for the six weeks of the Advanced Camp when the student receives rations in kind.

Commutation of Uniforms

In lieu of the issue of uniforms to the advanced students the Government has elected to pay commutation therefor at the rate of thirty dollars. This enables the institution to adopt a distinctive uniform if desired and to obtain a better one in quality and fit. At the beginning of the fourth year an additional sum of six dollars to defray the expense of alteration, repair and cleaning is paid for each uniform for which the original commutation was received.

Uniform

In view of the monetary allowances made by the War Department for the purpose, the students taking the Advanced Courses will be required to wear the prescribed uniform at all instruction under this Department. This uniform consists of cap, coat and breeches of olive drab wool, soft shirt with white collar and cuffs or the olive drab shirt, black narrow four-in-hand tie, leather puttees and high shoes, either tan or cordovan. The shirts, collars, cuffs, ties and shoes must be supplied by the individual student for his own use. The wearing

of the Sam Browne Belt with lacquered metal fittings is optional except for Reserve Officers' Training Corps officers, although most of the students have provided themselves with the belt The wearing of a civilian overcoat, raincoat and gloves is permitted when inclement weather requires such articles, but again, most of the students have provided themselves with trench coats of a uniform pattern.

The wearing of the prescribed uniform will be required at the Commencement Exercises of the Institute when graduates of the Advanced Course receive their commissions as second lieutenants in the Officers' Reserve Corps.

Reserve Officers' Training Corps Commissioned Officers

At the beginning of the first term of the third year certain well qualified students are selected, who have demonstrated their fitness during the Basic Course, and are offered by the Military Department commissions as second lieutenants in the Reserve Officers' Training Corps. A certain number of marked ability are promoted to the grade of first lieutenant as opportunity occurs, and from among the first lieutenants a limited number of captains are chosen.

The offer of these commissions is intended as a mark of departmental honor and a certificate of marked proficiency on the part of the student. The acceptance of the commission carries with it the obligation to attend military drill each week during the first and third terms for one hour only at such period as is most convenient for the student. The offer once made, the commission may be declined without prejudice as it is intended only as an honorable recognition of superior ability.

Instruction, Advanced Course — Third Year

These courses consist of specialized instruction leading to a commission in the Officers' Reserve Corps in the particular arm in which the student desires to serve. In general the instruction of a strictly military nature is given by a regular army officer of the arm to which the subject pertains, but subjects common to

all may be taught by any commissioned officer. The fullest possible credit is given for all Institute courses giving the desired instruction, and in some cases students are required to elect certain Institute courses instead of taking the subject in the Military Department. The Department cannot duplicate any course already being given by the Institute.

The Coast Artillery Unit. In this unit this year is given over to courses in Orientation, Artillery Matériel and Gunnery.

The Institute Course, Surveying 1·02, is substituted for the course in orientation given by the Military Department in the past, but any student who has satisfactorily completed one of the following Institute surveying subjects may be excused from the subject of orientation: 1·001; 1·002, 1·003; 1·005, 1·006; 1·01; 1·02; 1·03; 1·04; 1·07; 1·08; 1·09.

The Department will give a course in artillery matériel in the first term and a course in gunnery in the second and third terms of the year.

The course in artillery matériel consists of one hour lecture and two hours home work per week and covers the subjects of fire control instruments, azimuth instruments and practical work in actually using these appliances.

The course in gunnery consists of one lecture and two hours home work per week. It covers theoretical instruction and the practical calculation of ballistic problems and firing data.

All of this course is given by the Military Department, except the subject of orientation as mentioned above, for which certain Institute subjects are substituted.

The Engineer Unit. The instruction given in the Engineer Unit consists of one hour of class room and two hours of home work per week throughout the year. The work in the first term includes such subjects as field fortification, demolitions and camouflage. In the second term instruction in bridges and use of cordage is given. The third term work consists of hippology, topography and the tactics of engineer organizations.



Operating a Brigade Switchboard During an Advance

Field engineering includes such subjects as: wire entanglements, trench traces and construction, profiles, shelter and machine gun emplacements.

Demolitions includes the accompanying subject of explosives.

The subject of roads includes: construction as applied to military roads, road problems, and bridges in general with particular reference to military fixed and floating bridges.

Topography treats especially of map reading, profiles, visibility, conventional signs, and sketching.

The tactics of engineer organizations treats of the relation to the other arms and such subjects as orders, security, marches and combat.

All of these subjects are given by the Military Department and no Institute subjects can be substituted for them.

The Signal Corps Unit. The instruction given in this unit during the year consists of one hour class room, one hour laboratory work and one laboratory report per week during the first term, and one hour class room work and two hours home work per week during the second and third terms.

The instruction during the first term covers the elements of communication engineering. During the second term the subject taught is the tactical relation of signal communication to the employment of the combatant arms. The work of the third term is applied signal communication.

The course in elements of communication engineering consists of the study of telegraph and telephone sending and receiving devices, transmission and distribution of signals.

The course in tactical relations deals with the relation of signal communication to the organization and operations of combat troops.

Applied signal communication covers the technique of design and administration of tactical signal communication systems.

The Air Service Unit. This course is open to all students in the Institute except that applied mechanics 2·21 and 2·22 or equivalent courses are required. If the student has not

taken these subjects before registering for this course he must agree to take them during the course.

This course consists of one hour class room work and two hours of home work per week throughout the year.

The course in the first term consists of the General Air Service subjects of liaison for all arms, aërial sketching and maps, and visual reconnaissance.

In the second term the course continues with visual reconnaissance, naval affairs, and artillery and infantry observation.

During the third term aërial photography is taught together with aërial gunnery, navigation, code buzzer practice and the miniature range.

The Ordnance Unit. No instruction in this course is given by the Military Department in the first and second terms. During the third term a course of general lectures on the Ordnance Department will be given by the Military Department.

These lectures relate to the Ordnance Department functions, organization and mission with a brief description of ordnance matériel. The course is designed to supplement the regular Institute subjects incorporated in this course.

The following statement has been prepared to show the Institute subjects required of the student in the Advanced Course Reserve Officers' Training Corps Ordnance Unit and covers the work of both the third and fourth years.

As stated in the Training Programs for Ordnance Units Reserve Officers' Training Corps, issued by the War Department, Ordnance Engineering is so closely related to the mechanical and chemical branches of engineering that technical instruction in ordnance can best be given by incorporating problems relating thereto in various subjects forming part of regular engineering courses. In order that ordnance students may have proper training, enrollment in the Ordnance Unit is open to students in Courses II_1, II_4, III_2, V, VI–A, X (including X–A and X–B) and XV_2 only, and in all these courses, with the exception of VI–A, certain subjects not included in the prescribed

courses have been selected as being of special value to the Ordnance Department. In addition each ordnance student is required to complete enough of certain subjects prescribed by the War Department to give him a total of twenty ordnance credits.

Following is a discussion of the various courses mentioned above, which include sufficient of the subjects prescribed by the War Department to give a total of twenty ordnance credits. Subjects not included in the regular courses of instruction, which have been selected as being of special value as ordnance training and which are required to be taken in lieu of work in the Military Department required of students in other advanced units, are so indicated.

Students in mechanical engineering (Course II) are in general required to register for Option 4, but, in exceptional cases and when approved by both the Military and the Mechanical Engineering Departments, may register for Option 1.

Option 4, which is especially designed for Ordnance Reserve Officers' Training Corps students, includes the following selected subjects:

Heat Treatment 2·7563	40—0
Ordnance Engineering 2·292, 2·393	80—30
Total hours	150

Option 1, while including no selected subjects, does include the following subjects which are of particular value to automotive engineering work in the Ordnance Department:

Automotive Engineering 2·792, 2·793	80—40
Materials and Heat Treatment 2·33	20—10

Students in Metallurgy (Course III_2) are required to take metallurgical plants 3·56 (40–40) as Professional Option.

Students in Chemistry (Course V) are required to take chemistry of powder and explosives 5·592 (30–30) as an elective.

In view of the fact that Electrical Engineering (Course VI–A) is a five-year course involving more than 3300 hours work at industrial plants, the specified course meets the requirements and no selected subjects are required.

Commencing with the Class of 1924 the following selected subjects are being required for students in Chemical Engineering (Course X):

Chemical Engineering 10·321, 10·331	60—80
Chemistry of Powder and Explosives 5·592	30—30

For ordnance students admitted to the School of Chemical Engineering Practice (Course X–A) the following selected subject is required:

Chemical Engineering 10·321, 10·331	60—80

For those admitted to the School of Chemical Engineering Practice (Course X–B) is required:

Chemical Engineering 10·351	40—55

Commencing with the Class of 1924 the following selected subjects are required in Engineering Administration (Course XV_2).

Applied Mechanics 2·232	30—50
Ordnance Engineering 2·292, 2·293	80—30

Applied mechanics 2·232 is taken instead of 2·23 of the regular schedule; ordnance engineering 2·292 is taken as the engineering elective for which forty hours is allowed in the second term of the fourth year; and the hours necessary for ordnance engineering 2·293, in the third term of the fourth year, are to be arranged by the student in consultation with the head of his Department.

The Advanced Camp

The completion of the work of the third year Advanced Course requires the student to fulfill the second part of the pledge he took in signing the contract when he enrolled for the course. He must now attend the Advanced Camp of the unit in which he is enrolled, unless he attended such a camp at the end of his second year.

Attendance. As mentioned before, certain selected students are permitted to attend an Advanced Camp after completing the second year of the Basic Course. This is not encouraged

however and authority to do so is only granted in exceptional cases. The instruction given during the third year is planned to so prepare the student that he will receive the greatest possible benefit from the Advanced Camp.

In a few unusually exceptional cases permission may be granted to the student to postpone attending the Advanced Camp until after the completion of the fourth year. This is done only to relieve the student of actual hardship, which might be incurred were the rule rigidly enforced. It must be remembered however that attendance at an Advanced Camp is compulsory under the student's pledge and must be carried out under the Institute rule as a prerequisite to graduation and the receiving of a degree from the Institute.

Duration and Place. All of the Advanced Camps will be held for six weeks during the summer, usually from about the middle of June until the latter part of July.

It has happened in the past and may occur in the future that Congress has failed to appropriate funds sufficient to pay the expenses of a six weeks camp and it has been necessary to shorten it somewhat.

The Advanced Camp of the Coast Artillery Unit will be held at Fort H. G. Wright, Fishers Island, New York, the newly established training center for Coast Artillery activities in the First Corps Area.

The Signal Corps Unit will be sent to the Signal Corps Camp at Camp Alfred Vail, New Jersey.

Students of the Air Service Unit will go into Camp at Mitchell Field, Long Island, New York.

The Ordnance Unit will receive its camp instruction at Aberdeen Proving Ground, Maryland.

The Engineer Camp will be held at Camp Devens, Massachusetts.

It must be understood that the camps as located above are established there in accordance with the present policy of the War Department. There is no obligation incurred to maintain the camps in the future at their present locations, nor can the

student claim exemption from attendance because of change of location.

Requirements. To attend an Advanced Camp the student must be regularly enrolled in the Advanced Course, Reserve Officers' Training Corps, by signing the contract with the War Department.

Students who receive permission to attend an Advanced Camp at the end of the Basic Course will be required to execute this contract prior to going to camp.

All students attending camp must be protected against small-pox and typhoid fever. It is desirable that this protection be obtained prior to going to camp and opportunity will be given by the Military Department to obtain this immunity without expense to the student. If it be not obtained prior to reporting at camp it will be administered immediately upon arrival there.

Emoluments. The student who attends an Advanced Camp receives from the Government mileage for the round trip at the rate of five cents per mile.

He also receives rations, quarters, clothing and medical attention while at camp and the pay of the seventh grade of the Regular Army for the whole period of the camp, including the days on which the camp opens and closes, provided the student is present. Pay for one day is deducted for each day the student is late in reporting at the camp and for each day of unauthorized absence. This pay amounts to seventy cents per day at the present.

There is deducted from the commutation paid the student under the contract the value of the ration for each day that he receives rations in kind at the camp. The ration value at present is thirty cents per day.

Instruction. In general the instruction given at the Advanced Camps is such as to expand and round out that given in the regular courses. It is possible to give instruction of a very practical nature in subjects which have been presented in a theoretical way only. This is done by actual demonstrations of the various military weapons, appliances and matériel,

by problems on the ground and the handling of the matériel generally by the students.

It is not practicable to give in detail the instruction offered in the various units without repeating much of what has been mentioned already, but the work of the Advanced Camps is planned to fit the student to be a well trained junior officer in his chosen arm of the service.

Infantry drill, especially ceremonies, horsemanship and small arms target practice are some of the subjects given to all. Target practice with large caliber guns and mortars for the Coast Artillery Unit, a demonstration of the communication problem of a division under simulated war conditions for the Signal Corps Unit, the practical training of the student in the Air Service Unit as an observer in the air, the demonstration by the Engineer Unit of the various field problems met by combat Engineer troops, and for the Ordnance Unit, the proof firing of guns and their mounts, acceptance tests of ammunition and road tests of artillery vehicles, tanks and tractors. These may be said to be the culmination of the training the various units receive at their Advanced Camps.

Physical training is given to all. Mass athletics and various games, baseball, tennis, swimming and golf will be provided at all the camps.

Opportunities to visit, under expert guidance, nearby points of professional and general interest are provided and the students are permitted to take week-end trips usually from Saturday noon until Sunday night.

Students are encouraged to form glee clubs and at most of the camps there are hotels or country clubs whose privileges are offered the students for dances and wholesome recreation.

One great advantage of the camps is the opportunity afforded the student to meet men from other institutions who are interested in the same line of work and to compare his unit with those at other colleges. Competitive drills are among the means used to build up esprit-de-corps and stimulate a wholesome rivalry between the units from the different colleges.

Instruction, Advanced Course — Fourth Year

This is the final year of training in the Reserve Officers' Training Corps and effort is made to finish and round out the instruction of the three preceding years as well as the training of the Advanced Camp.

With the exception of a course in international law given by the Institute, and another course on the military history and policy of the United States, given by the Military Department, both of which are required of all students registered in the Advanced Course, the instruction is highly specialized and given separately for each unit. Every possible use is made of regular Institute courses to improve and extend the Military Department courses and to reduce the amount of additional work required of the student.

The course in military law and kindred subjects, heretofore given by the military department, will be discontinued and the substantially parallel course on international law regularly given by the Institute will be substituted therefor. The student will receive instruction in a broader subject which has been made to include strictly military law and will receive Institute credit toward graduation for so doing. This course will be given during the second term and will be required of all seniors in the Reserve Officers' Training Corps.

The course on the military history and policy of the United States is required of all seniors registered in the Military Department and may be elected generally by all students in the Institute.

It consists of lectures and written tests supplemented by outside reading. Three lectures per week are given during the first term and one hour of collateral reading for each hour of lecture is required. Institute credit of sixty hours will be given for this course.

Coast Artillery Unit. The work for this unit consists of a course on the tactical employment of artillery throughout the year. It consists of lectures, problems and written work requiring one recitation period and two hours home work per week.

Engineer Unit. The Engineer Unit devotes the whole of the first term to a study of general construction and roads with special reference to military requirements.

During the second term the subjects of seacoast fortifications with their accompanying appurtenances, and wharves and piers and water supply are taught.

In the third term the student is given a course of instruction on the organization and duties of the Engineer Corps in relation to the other arms of the service together with certain field problems illustrating the subject.

Through the whole year the instruction is given in one-hour lecture periods and two hours home work per week.

Signal Corps Unit. The Military Department gives no instruction to this unit in any term of this year; all of the work required is taken in regular Institute courses. The requirement of the law of five hours per week, or a total of 150 hours for the year, is met in the case of students taking the Communication Option of Course VI by the regular studies of that course. Students in other eligible courses are required to take Principles of Electrical Communication 6·281 and 6·283 (180 hours). Students taking these latter subjects also receive 180 hours "Professional Option" or "Graduate Subject" credit toward their Institute degree.

Ordnance Unit. To avoid repetition the prospective student in this unit is referred to the remarks and subject matter under the heading "Advanced Course, Third Year, Ordnance Unit," page 31, which describes fully the instruction given and work in this unit during both years.

No instruction is given by the Military Department but consists for all three terms of regular Institute courses.

Air Service Unit. The Air Service Unit devotes the first term to the study of airplane functions and airplane rigging.

The second term is given over to the study of aërial tactics and a good deal of time is devoted to motor shopwork.

In the third term a short course in bombardment equipment is given and the rest of the time is spent in further work in airplane rigging.



Measuring Muzzle Velocities

In each term there is a lecture period of one hour and two hours home work are required each week.

Each student in the Air Service Unit will take, during the second and third terms of the fourth year, the regular Institute course in aëronautical engineering, consisting of three lectures and two hours of home preparation per week. During these terms the students taking the above course will not be required to attend the Air Service Unit classes given by the Military Department. As attendance at an Air Service Advanced Camp is necessary before taking the course in aëronautical engineering, those students who attend such a camp at the end of the Basic Course may take the course during their third year.

The Officers' Reserve Corps

The student registered in an Advanced Course, Reserve Officers' Training Corps, who has successfully completed the requirements of the Military Department, is eligible for a commission as Second Lieutenant, Officers' Reserve Corps, in that arm of the service which he elected in his choice of unit in the Reserve Officers' Training Corps.

As the Institute requires the successful completion of a course as a prerequisite for graduation, so the Military Department requires that the student must receive a degree from the Institute in order to be given a commission.

The commission will be withheld until the degree is awarded, but it will be issued upon proper notification from the student that he has completed the requirements of the Institute and received a degree.

The appointment in every case will be for a period of five years, but an appointment in force at the outbreak of war or made in time of war, shall continue in force until six months after its termination.

Upon the expiration of the period of appointment, reappointment without change of grade or section will, in general, be tendered without application.

Acceptance. The commission is offered the student as



Class in Cross-Country Flying

evidence that he has completed the course of instruction in a manner satisfactory to the War Department, that he has realized his duties under the Constitution of the United States and has prepared himself to take part in the defense of the Country, should emergency require it in return for the protection and other benefits received, and that he stands ready to place himself at the disposal of the Government should necessity require that he do so.

There is no legal obligation on the part of the student to accept the commission offered. If he finds that there are good and sufficient reasons why he cannot accept the commission offered him, or should postpone such acceptance, he is at liberty to do so.

There can be no doubt, however, that those who are offered commissions are morally bound to accept such offers unless the obstacles are so great as to involve grave hardship so to do. It should be remembered that the student has received instruction along military lines which has cost in the aggregate large sums of money and it is but fair that the United States should receive a proper return for its expenditures.

In case it is found impossible to accept the commission offered, a certificate will be issued by the Military Department to the student concerned,setting forth the facts which will entitle him to be commissioned at any time within five years from the date when he became eligible for appointment to the Officers' Reserve Corps.

Obligations. The law gives the President of the United States the authority to order a Reserve Corps Officer to active duty with any of the military forces of the United States at any time for any period, but, except in time of a national emergency expressly declared by Congress, no Reserve Corps Officer shall be employed on active duty for more than fifteen days in any one calendar year without his consent. While on this duty he will receive the pay allowed by law for his grade increased as provided for length of service; the allowances prescribed for the Regular Army under similar circumstances; and the mileage or transportation specified by the Act of Congress.

Since Congress so far has not appropriated sufficient funds to cover the expense of ordering all Reserve Officers to active duty for the fifteen days, for the present at least, attendance at Officers' Reserve Corps summer camps is limited to those making application to attend in such numbers only as can be paid from the appropriations. The selections will be made by the Corps Area Commander and applications to attend camp should be made to him.

In order to continue to be qualified for active service, preparation and study on the part of Reserve Officers is necessary. A correspondence course has been prepared by most of the arms of the service and all officers are urged to keep up their training by taking these courses. They will also find it advantageous to join one or more of the military societies and associations of officers of their own arm and to subscribe to the various publications issued by them. This will enable officers to keep informed of current military events as well as to form instructive and pleasant friendships with others interested in similar subjects.

The publications necessary in the correspondence courses will be furnished by the War Department without cost to the officer, but owing to lack of funds it cannot do more. Official military publications can be purchased for the cost of printing from the Superintendent of Documents, Government Printing Office, Washington, D. C., and will be found very valuable to those officers who desire to keep abreast of the latest military thought.

Air Service Officers' Reserve Corps. After the student in the Air Service Unit Reserve Officers' Training Corp has been commissioned a second lieutenant, Air Service Officers' Reserve Corps, an opportunity is given him to continue his training and become a junior airplane pilot.

The Professor of Military Science and Tactics is authorized to report those whom he considers best fitted with a view to their being ordered to an Air Service school for further training. The number so ordered will depend only upon Congressional appropriations.

These selected officers, with their consent, are ordered by the War Department to active duty and sent to a designated school for a four months' course of training to be pilots, and upon successfully completing this course are rated as junior airplane pilots. Whenever the necessary funds become available the periods of training will be increased from four to six months.

Those ordered to active duty as above will receive the pay and allowances of their rank allowed by law, including the fifty per cent increased pay for flying duty and will be paid mileage for the round trip.

Ordnance Officers' Reserve Corps. It is the policy of the War Department at present to select as many ordnance officers of the Officers' Reserve Corps, recently graduated from technical schools maintaining Ordnance Units of the Reserve Officers' Training Corps, for detail to active duty as funds appropriated by Congress will permit. They will be directed to report at Watertown Arsenal, Massachusetts, for intensive instruction in practical duties of ordnance officers for a period of three months. While on this duty they will receive the full pay and allowances of their grades as well as mileage to and from the Arsenal. The quota assigned to Massachusetts Institute of Technology is four per year.

Assignment. So far as practicable it is contemplated that a mobilization of the Army shall be one of organizations rather than of individuals. To accomplish this and to have all reserve officers understand and be prepared for their specific duties in time of war, all Reserve Officers will be given specific assignments in time of peace, which in the case of line officers will, in general, be to a combat organization. A large number of Reserve Officers in staff departments or line branches having design, procurement and supply functions are not assigned to a particular organization, but are held for special assignment to duties within their particular branch.

Whenever practicable Reserve Officers will be assigned to units in the locality of their residences.

Transfers. Transfers from section to section of the Officers' Reserve Corps will be made only for cogent reasons and when

in the best interests of the service. No officer will be transferred without his consent. A transfer when made will be without change of grade or date of appointment, the officer thus continuing to serve in the new section the unexpired portion of the five-year period for which appointed. Applications for transfer must be limited to those involving no change of grade.

Uniforms. The uniforms and insignia prescribed for officers of the Reserve Corps are identical with those prescribed for officers of the Regular Army.

All Reserve Officers are required to provide themselves with field uniforms with proper insignia. Other than actual clothing, everything needed by such officers will be issued to them when ordered to active duty, except such articles as they have previously purchased from the War Department.

The uniform will be worn by all Reserve Officers when on active duty and may be worn when not on active duty and within the United States or its possessions on occasions of military ceremony, at social functions of a military character, at informal gatherings of the same character, and when engaged in the instruction of a cadet corps or similar organization, or when responsible for the military discipline at an educational institution. Reserve Officers may also wear the uniform when attached to an organization for target practice, when visiting a military station for participation in military drills or exercise, or when assembled for the purpose of instruction.

Reserve Officers not on active duty, and outside of the United States or its possessions will not, except when granted authority, wear the uniform. Such officers, on occasions of military ceremony or other military functions, may, upon reporting to the nearest military attaché, and having their status accredited, be granted authority to appear in uniform.

Promotion. After serving not less than three years in any one grade an officer may apply for promotion. This application must be made through the military channel to the Corps Area Commander who will decide, from the recommendations and other facts in each case, whether to order the examination of the applicant. Promotion will depend upon the successful

passing of this examination and the fact that there exists an appropriate assignment of duty for the officer upon promotion.

Absence. Any Reserve Officer desiring to leave the limits of the United States for a period of more than thirty days will notify the Adjutant General through military channels of the place, approximate date and probable duration of his travel or temporary residence abroad. Such officer will keep the Adjutant General informed of his correct address and will promptly report his return to the United States, giving his permanent address. It is desirable that any such officer report his presence and address in any foreign country to the nearest United States Military Attaché.

Resignation. Reserve Officers may submit by letter through the military channel to the Adjutant General of the Army, stating their reasons therefor, resignation of their commissions at any time, but the acceptance of the same is at the discretion of the President.

Discharge. Any Reserve Officer may be discharged at any time at the discretion of the President.

The Regular Army

The law requires that, except in certain branches, appointments to the Regular Army shall be made in the grade of second lieutenant. It also prescribes the three classes of persons from among whom such appointments shall be made. The Reserve Officer is placed at the head of the third class of eligibles and is next in order for appointment after (1) the graduates of the United States Military Academy and (2) certain warrant officers and enlisted men of the Regular Army.

The National Guard

Reserve Officers are not barred by reason of their commissions in the Officers' Reserve Corps from accepting commissions in the National Guard. Any Reserve Officer may hold a commission in the National Guard without thereby vacating his reserve commission. Considerations of administration and

SCHEDULE OF INSTRUCTION

Weeks		Fall Term 1 2 3 4 5 6 7 8 9 10		Winter Term 1 2 3 4 5 6 7 8 9 10		Spring Term 1 2 3 4 5 6 7 8 9 10
Freshmen		Infantry Drill	CHRISTMAS RECESS	Elementary Subjects of Military Training Military Curtesy, Guard Duty, First Aid	SPRING RECESS	Infantry Drill
Sophomore		Topography — Infantry Weapons		Military Field Engineering		Motor Transportation — Artillery Materiel Signal Corps — Instruments General Air Service Subjects
Juniors	CAC Engrs.	Artillery Materiel Field Fortifications Demolition, Camouflage		Gunnery Bridges, Cordage, Rigging		Gunnery Engineer Tactics Hippology, Topography
	SC	Elements of Communication Engineering		The Tactical Relation of The Signal Corps to Other Arms		Applied Signal Communications
	AS	General Air Service Subjects		General Air Service Subjects		General Air Service Subjects
	Ord.	Institute Courses Only		Institute Courses Only		General Ordnance Subjects
Seniors	All Units	Military History and Policy of the United States GS98		International Law GS3		
	CAC Engrs.	Employment of Artillery General Construction, Roads, etc.		Employment of Artillery Seacoast Fortifications Wharves, Piers, and Water Supply		Employment of Artillery Engineer Organization Engineer Field Problems
	SC	180-Hour Course in Electrical Communication, given by Electrical Engineering Department				
	AS	Airplane Functions		Aerial Tactics Motor Shopwork		Bonbardment Equipment Airplanc Rigging
	Ord.	No instruction under Department of Military Science, but appropriate subject matter introduced into regular Institute Courses.				

TABULATION

Military Department

Courses		Subjects	Credits
Military Science			
Basic Course — First Year			
First Term	(MS11)	Infantry Drill	
Second Term	(MS12)	Elementary Subjects of Military Training	
Third Term	(MS13)	Infantry Drill	
Basic Course — Second Year			
First Term	(MS31)	Topography	
		Infantry Weapons	
Second Term	(MS32)	Military Field Engineering	
Third Term	(MS33)	Motor Transportation	
		Artillery Matériel	
		Signal Corps Instruments	
		Air Service Subjects	
Advanced Course — Third Year			
Coast Artillery Unit			
First Term	(MS311)	Artillery Matériel	
Second Term	(MS312)	Gunnery	
Third Term	(MS313)	Gunnery	
Engineer Unit			
First Term	(MS321)	Field Fortification	
		Demolitions	
		Camouflage	
Second Term	(MS322)	Bridges	
		Cordage, etc.	
Third Term	(MS323)	Engineer Tactics	
		Hippology	
		Topography	
Signal Corps Unit			
First Term	(MS331)	Communication Engineering	
Second Term	(MS332)	Tactical Relations	
Third Term	(MS333)	Signal Communications	
Ordnance Unit			
First Term		No instruction under Military Department; Institute Courses in lieu thereof.	
Second Term		No instruction under Military Department; Institute Courses in lieu thereof.	
Third Term	(MS343)	General Ordnance Subjects	
Air Service Unit			
First Term	(MS351)	General Air Service Subjects	
Second Term	(MS352)	Observation Aviation	
Third Term	(MS353)	Aërial Gunnery and Navigation	
Advanced Course — Fourth Year			
Coast Artillery Unit			
First Term	(MS411)	Employment of Artillery	
Second Term	(MS412)	Employment of Artillery	
Third Term	(MS413)	Employment of Artillery	

Engineer Unit		
First Term	(MS421)	General Construction Roads
Second Term	(MS422)	Seacoast Fortifications Wharves and Piers Water Supply
Third Term	(MS423)	Engineer Organization Field Problems
Signal Corps Unit		
First Term	(MS431)	No instruction under Military Department; Institute courses in lieu thereof.
Second Term	(MS432)	No instruction under Military Department; Institute courses in lieu thereof.
Third Term	(MS433)	No instruction under Military Department; Institute courses in lieu thereof.
Ordnance Unit		
First Term	(MS441)	No instruction under Military Department; Institute courses in lieu thereof.
Second Term	(MS442)	No instruction under Military Department; Institute courses in lieu thereof.
Third Term	(MS443)	No instruction under Military Department; Institute courses in lieu thereof.
Air Service Unit		
First Term	(MS451)	Airplane Functions Airplane Rigging
Second Term	(MS452)	Aërial Tactics Motor Shopwork
Third Term	(MS453)	Bombardment Equipment Airplane Rigging

Required of All Units, Advanced Course — Fourth Year

First Term. Military History and Policy of the United States GS98.

Second Term. International Law GS3.

During both years of the Basic Course, three hours per week of classroom work is required.

During both years of the Advanced Course, in all Military Science subjects, one hour per week of classroom and two hours per week of home work is required except in MS331, in which two hours classroom work and one hour home work per week is required.

Credit given for Military History and Policy GS98 is sixty hours.

Credit given for International Law GS3 is sixty hours.

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